The Q Object

The Q object is an optional object of JSON Object type that can be passed as an @QueryParameter into many API calls. The purpose of this object is to format the API response. An example of such object is shown below:

```json
{

    "projection":["WORK_ORDER_ID","STATUS"],
    "filter":[["STATUS","=",4], ["OWNER_ID","IN","1317,56"], "AND"],
    "sort":{"START_DATE":"DESC"},
    "page":{"size":20, "number":2}

}
```

All fields of the object are optional and are described below:

- projection = JSON array of column names to be returned by request. In the example above, only the [WORK_ORDER_ID] and [STATUS] columns would be returned. If this field is omitted, then the request would return ALL available columns.

  > ⚠ Note: This can be viewed as vertical filtering.

- sort = JSON Object, where keys are column names and values are the direction of the sort (DESC or ASC). This field specifies that the output should be sorted.
- filter = JSON array that contains three element JSON arrays and strings "AND" or "OR".

  The inner JSON arrays represent the condition to filter by:

  - The first element is the operand, usually a column name.
  - The second element is the operator, such as "=", "BETWEEN", "IN."
  - The third element is the operand to compare with, usually some value.

  The "AND" or "OR" strings tell how conditions should be related in the WHERE clause.

  > ⚠ Note: The filter is written using RPN (Reverse Polish Notation), where the operators are "AND", "OR" and the operands are the three-element JSON condition arrays. This can viewed as horizontal filtering.

- page = represents the pagination of the output.
  - size = number of records per page, first record has index 1
  - number = page number, first page has index 1

In the following example, all work orders are requested and use a Q object to limit the response to return only open work orders (status = 4). The response contains only two columns, sorted by work order start date, and returns the second page where there are 20 rows per page:

```
<baseUrl>/workOrder?q={"filter":[["STATUS","=",4]],"projection":["WORK_ORDER_ID","STATUS"],"sort":
{"START_DATE":"DESC"},"page":{"size":20,"number":2}}
```